



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,717	10/24/2005	Richard Quentin Carmichael	D4916-0007	4056

8933 7590 08/15/2007  
DUANE MORRIS, LLP  
IP DEPARTMENT  
30 SOUTH 17TH STREET  
PHILADELPHIA, PA 19103-4196

EXAMINER
----------

SCHNEIDER, CRAIG M

ART UNIT	PAPER NUMBER
----------	--------------

3753

MAIL DATE	DELIVERY MODE
-----------	---------------

08/15/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/541,717

Applicant(s)

CARMICHAEL, RICHARD  
QUENTIN

Examiner

Craig M. Schneider

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 20-21, and 23-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/29/05 and 10/24/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Species B in the reply filed on 7/11/07 is acknowledged.
2. Claims 16-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/11/07.

### ***Specification***

3. The disclosure is objected to because of the following informalities:  
On page 5, line 18 "Figure;" should be --Figure 5;--.  
On page 11, line 17 "inlet 20 may" should be --inlet 32 may--.  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 24 is rejected under 35 U.S.C. 101 because applicant is claiming a method but the claim lacks steps to perform the method. The language in the claim is directed towards an apparatus not a method as stated by the preamble.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 3753

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 6-15, 23, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Moore (2,020,563).

Moore discloses a condensate trap (10 and 11) comprising a vortex chamber (29). The trap further comprising an inlet (14) and a single outlet (16). The inlet being disposed to admit fluid into the chamber in a manner to promote a rotational flow of the fluid in the chamber about a longitudinal axis of the chamber. The outlet comprising an escape aperture at an axial end of the chamber (page 2, col. 2, line 43 to page 3, col. 2, line 8).

Regarding claim 9, the vortex chamber is provided in a control element (27) supported by a body provided with inlet (14) and outlet (17) passages. The inlet passage communicating with the inlet to the chamber and the outlet passage communicating with the escape aperture.

Regarding claim 12, the port communicating with the inlet comprises a circular groove (area that 11 and 28 communicate) in the contact face, centered on the port communicating with the escape aperture.

Regarding claim 14, the control element is secured to the body by a cap (11).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 3753

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore as applied to claim 1 above, and further in view of Freimann (5,573,029).

Moore disclose all the features of the claimed invention except that the vortex chamber has a portion that is cylindrical. Freimann discloses the use of a cylindrical inlet chamber (2) followed by the frusto conical section (4) of the chamber (col.5, lines 14-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the cylindrical section at the inlet of the vortex chamber of Freimann onto the vortex chamber of Moore, to create a more uniform entry flow.

9. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore.

Moore fails to disclose the diameter of the escape aperture. The examiner takes Official Notice that the diameter of the escape aperture is a results-effective variable, i.e. a variable that achieves a recognized result. In the instant case, the diameter of the escape aperture is directly proportional to the amount of condensate that can pass through the device. Since the diameter of the escape aperture is recognized as a results-effective variable, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have chosen an escape aperture with a diameter not greater than 40 mm and more specifically not greater than 30 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art,

Art Unit: 3753

discovering the optimum or workable ranges involves only routine skill in the art (see MPEP 2144.05).

**Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barnadas (4,987,918) discloses a condensate trap that utilizes a vortex to lower the pressure of the vapor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig M. Schneider whose telephone number is (571) 272-3607. The examiner can normally be reached on M-F 8:30 -5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMS *CMJ*  
August 10, 2007



GREGORY HUSON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700